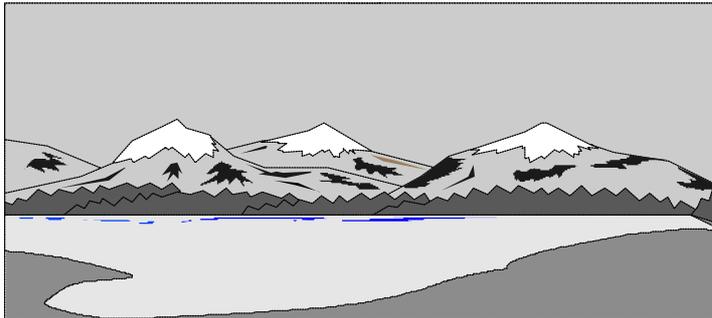
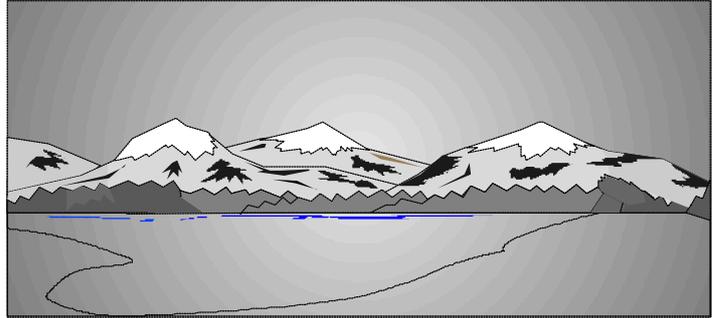


## 1. Introduction

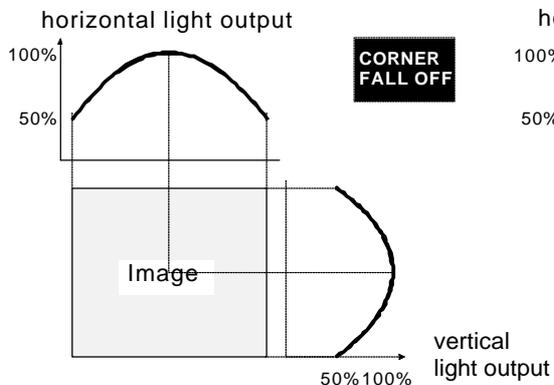
Today, multi-screen installations are very popular for many applications (e.g. simulation, business). In these installations, the goal is to obtain a continuous matched image, forming one homogeneous field-of-view with overall light output uniformity.

The laws of physics applied to projection CRT and optics dictates that the center of the projected image will be brighter than the corners, this phenomenon is normally referred to as 'corner fall off'. Secondly, due to the normal off-axis projection of the red and blue images, CRT projection displays a phenomenon referred to as 'color shift', whereby one side of the screen is "redish" and the other "blueish".

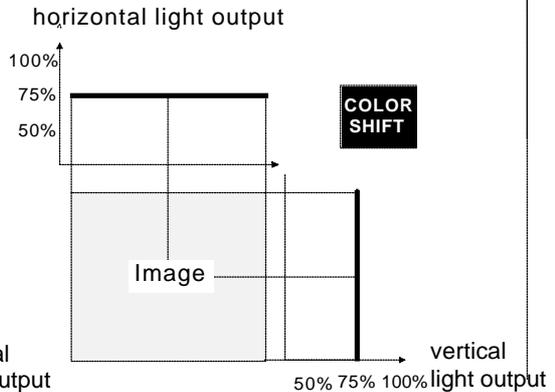
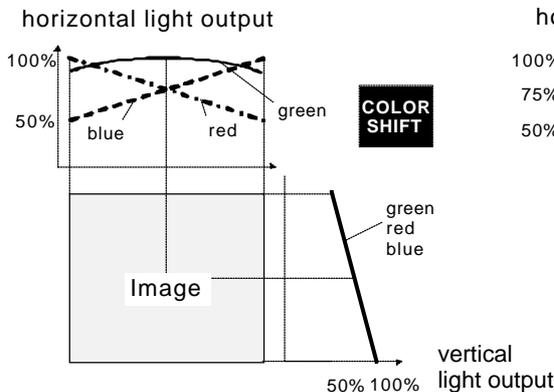
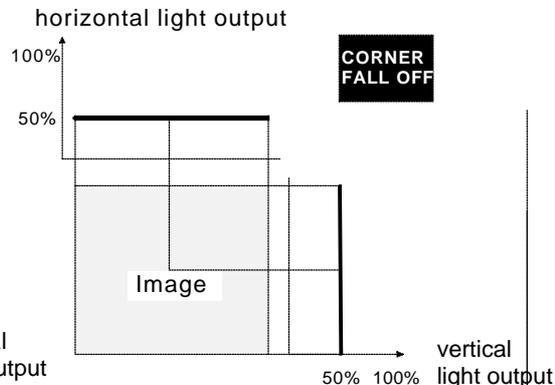


## 2. Basic Concept

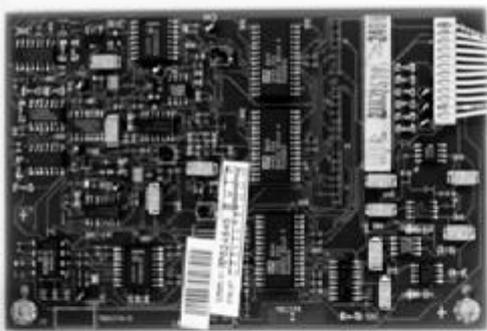
WITHOUT CONTRAST MODULATION



WITH CONTRAST MODULATION



## 3. Contents of the Contrast Modulation Kit

	<b>Contrast Modulation Module</b>	<b>R7624845</b>	
	<b>Screw</b>	<b>4 x (Z\$7985M3x6STZY)</b>	<b>B360861</b>
	<b>Spacer</b>	<b>2x (L10 M3 H5)</b>	<b>V367601</b>
			
<b>Spacers</b>	<b>Screws</b>		

**Attention:**

The Contrast Modulation option is active for the **BV701MM** from software version **V4.10** and for the **BD708** from software version **V3.20**

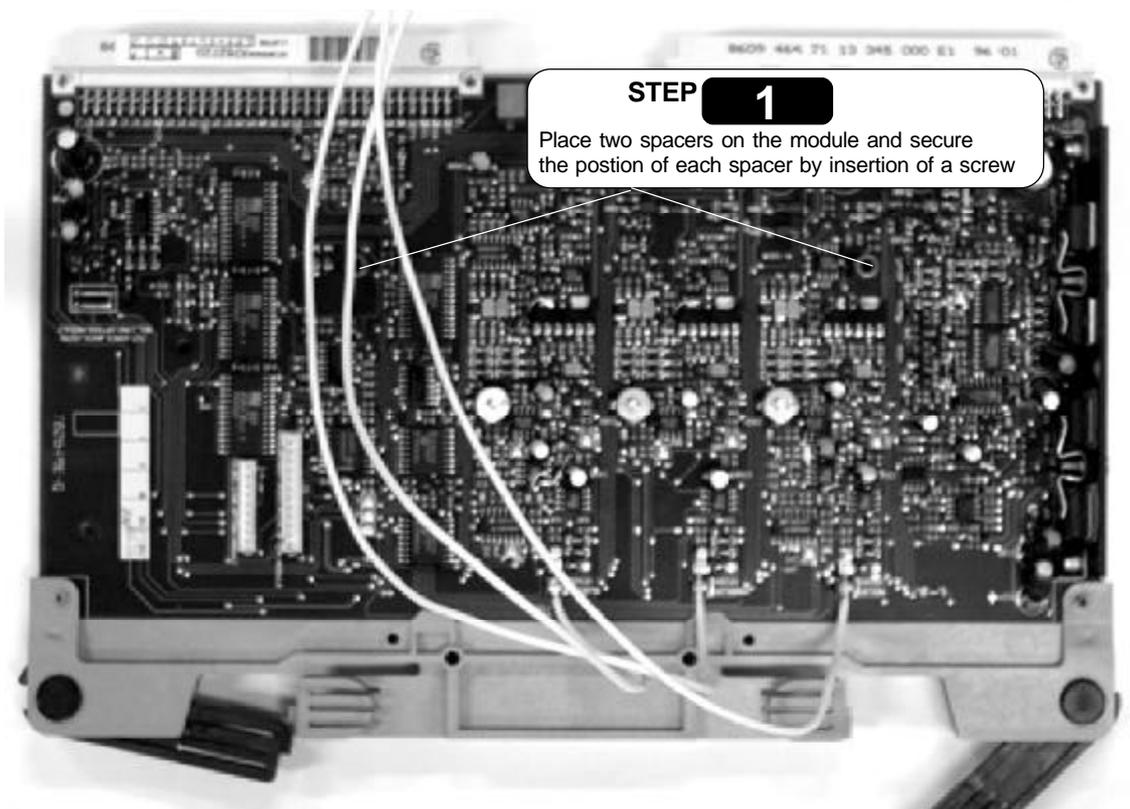
## 4. Installation of the Contrast Modulation Module

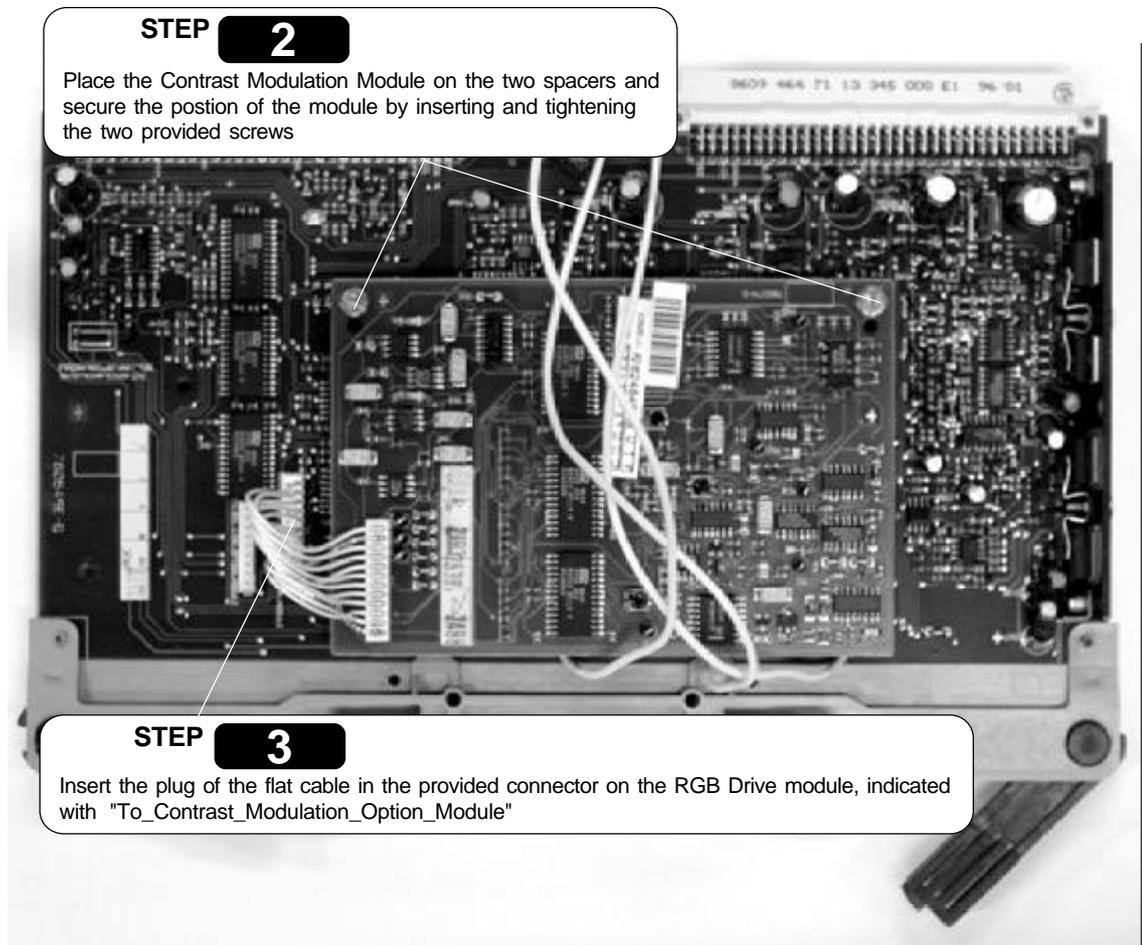
The Contrast Modulation Module R7624845 is mounted on the:

- RGB DRIVER Module (R762720) of the B\*808s Series projectors and
- on the INPUT & SWITCHING Module (R762228) of the B\*701s Series projectors

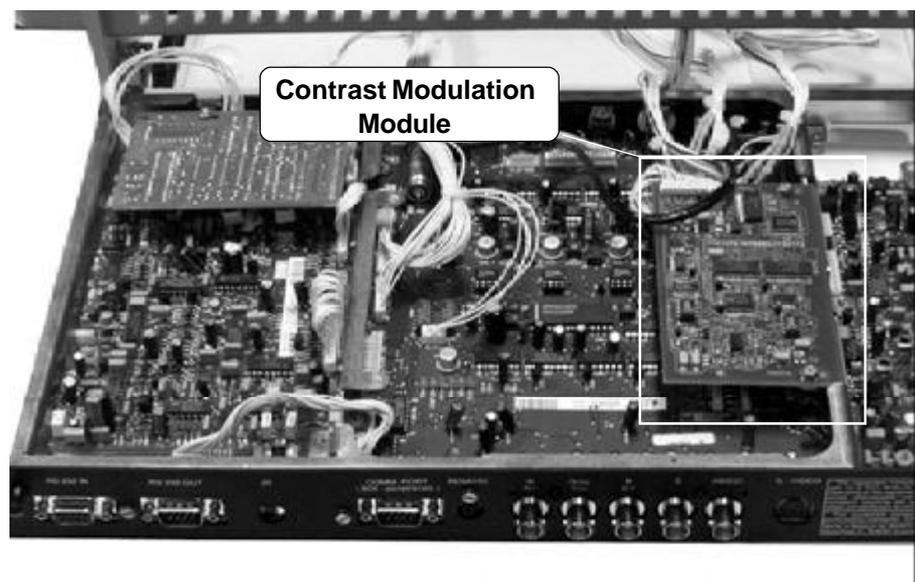
\* Data and Graphics

### 4.1. Installation of the Contrast Modulation Module in the \*808s Series projectors



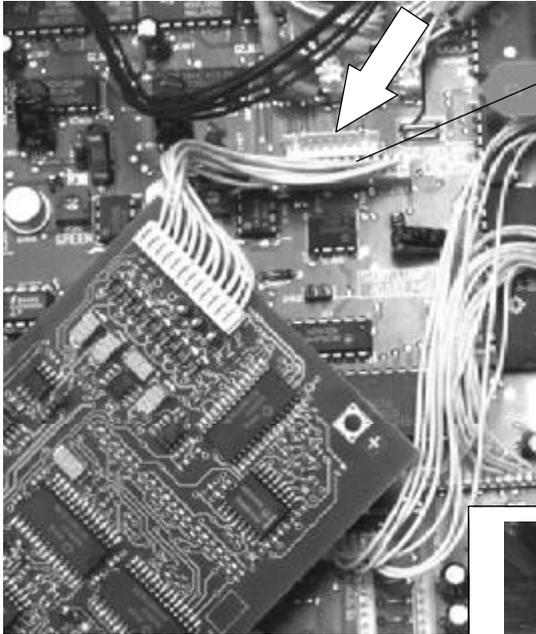


## 4.2. Installation of the Contrast Modulation Module in the \*701s Series projectors

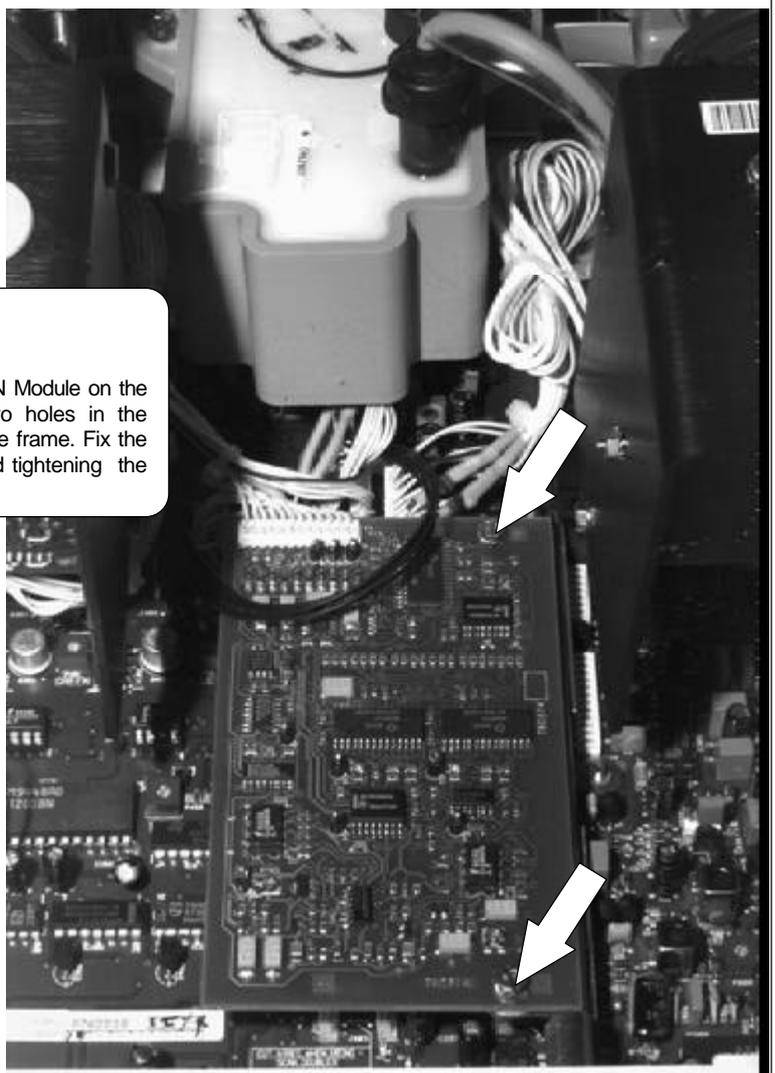


## STEP 1

Connect the CONTRAST MODULATION Module to the RGB Input+Driver Module by plugging in the "CONTRAST\_MOD" plug into the "CONTRAST\_MOD" connector (J757) on the Input Module



Mechanical Frame



## STEP 2

Place the CONTRAST MODULATION Module on the mechanical frame lining up the two holes in the module with the threaded holes in the frame. Fix the module to the frame by inserting and tightening the two provided screws.

## 5. Contrast Modulation Adjustment.

The Contrast Modulation option is automatically added to the Random Access Adjustment Mode menu.

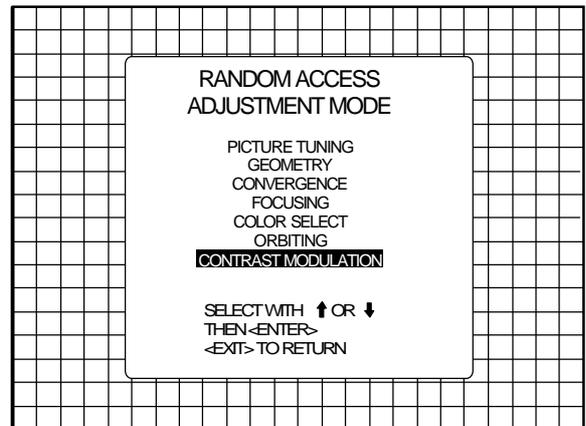
When the module is correctly installed, the projector software will detect this option and the selection line will be added in the menus.

Refer to your owner's manual to start up the adjustment mode and to select the Random Access Adjustment mode.

### Notes:

- An external generated white image will be useful during the following adjustments.
- Be sure the horizontal phase is correctly adjusted. The image must be centered on the raster with the horizontal phase adjustment, otherwise it is not possible to adjust the contrast modulation correctly.

Highlight *CONTRAST MODULATION* with the arrow keys and press "**ENTER**" to select.

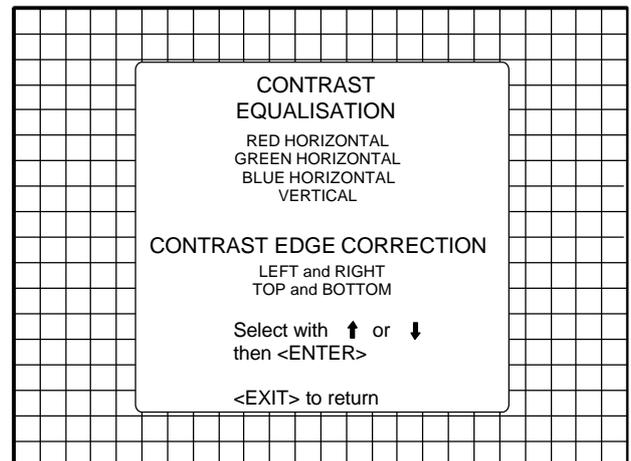


"**ENTER**" selects the contrast modulation menu.  
"**EXIT**" returns to the Path selection menu.  
"**ADJUST**" returns to operational mode.

The first 3 adjustments (horizontal red, green, blue) are used for horizontal light equalisation for the three specific colors separately. This compensates the error due to the different horizontal position of the picture tubes. One side of the image is reddish and the other side is blueish. This phenomenon is called *Color shift*.

The *VERTICAL* adjustment affects the three colors at the same time and corrects the vertical error in light output due to the projection angle (10.5 degrees).

Left and right (horizontally) and top and bottom (vertically) adjustments improves the '*hot spot*' in the center of the screen.



## 5.a. Contrast equalisation ('Color Shift')

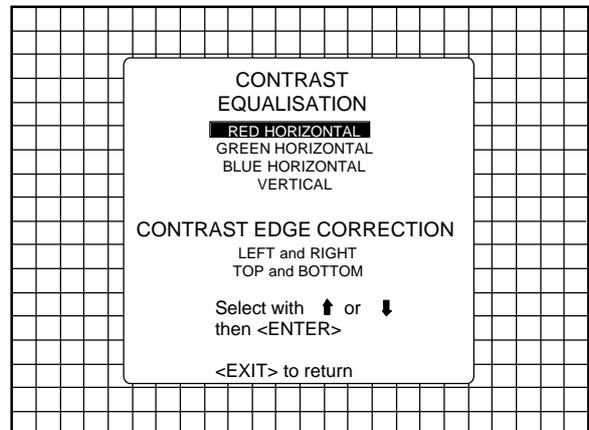
Highlight *RED HORIZONTAL* with the arrow keys and press "**ENTER**".

Only a red image is displayed. Use the arrow keys to equalise the light output on the left and right side of the image. The best result is obtained by looking on the left and the right side until both are equal, or by using a very sensitive light meter.

"**ENTER**" returns to the contrast modulation menu.

Repeat this adjustment for green and blue by selecting first Green horizontal and then Blue horizontal.

**Note:** (only for non-ASIC controllers) When the end of adjustment range is reached for red and blue, the green image will also be displayed, to give you the message "end of adjustment range". The green image stays active until a new selection is made.



"**ENTER**" displays the red image.

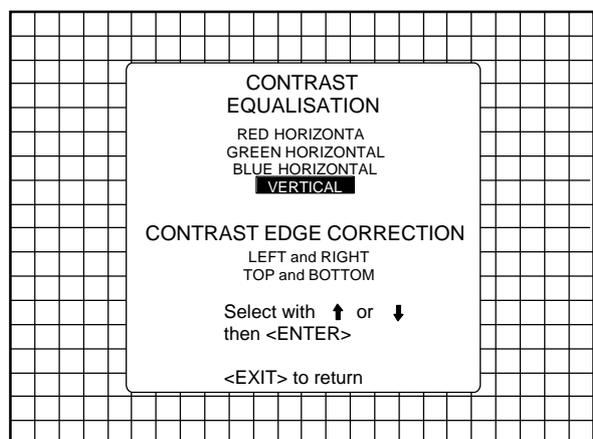
"**EXIT**" returns to the Random access adjustment mode main menu

"**ADJUST**" returns to operational mode.

Highlight *VERTICAL* with the arrow keys and press "**ENTER**". This adjustment is for all three colors at the same time.

Use the arrow keys to equalise the vertical light output and press "**ENTER**" to continue.

The best result is obtained on a white image by looking on the top and the bottom side until both are equal, or by using a very sensitive light meter.



"**ENTER**" selects the Vertical contrast equalisation option.

"**EXIT**" returns to the Random access adjustment mode main menu.

"**ADJUST**" returns to operational mode.

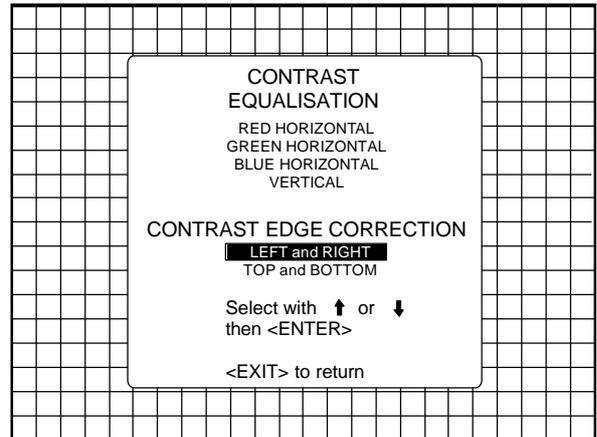
## 5.b. Contrast edge correction ('hot spot')

Highlight *LEFT-RIGHT* with the arrow keys and press "**ENTER**" to start the horizontal '*hot spot*' correction in the center of the screen. Adjust with the arrow keys for the same light output in the corners as in the center of the image.

This left-right adjustment must be done in combination with the top-bottom adjustment as both adjustments influence each other.

**Note:** these adjustments will reduce the total light output, so do not over adjust. A bar scale of 10 - 15 for both adjustments gives a good result.

Press "**ENTER**" to return to the contrast modulation menu.



**ENTER** starts the left-right contrast edge correction.

**EXIT** returns to the Random Access adjustment main menu.

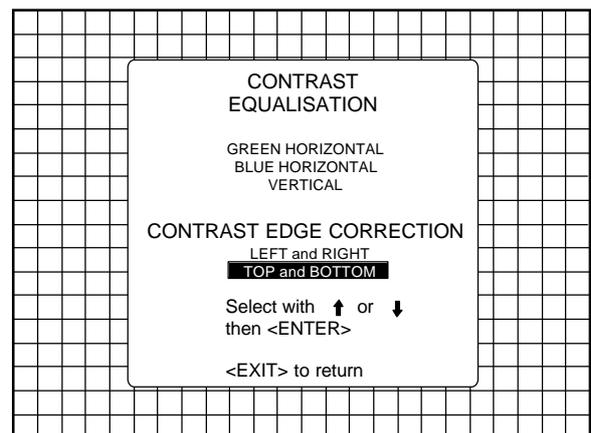
**ADJUST** returns to operational mode.

Highlight *TOP-BOTTOM* with the arrow keys and press "**ENTER**" to start the vertical '*hot spot*' correction in the center of the screen. Adjust with the arrow keys for the same light output in the corners as in the center of the image.

This top-bottom adjustment must be done in combination with the left-right adjustments as both adjustments influence each other.

Note : these adjustments will reduce the total light output, so do not over adjust. A bar scale of 10 - 15 for both adjustments gives a good result.

Press "**ENTER**" to return to the contrast modulation menu.



**ENTER** starts the top-bottom contrast edge correction.

**EXIT** returns to the Random Access adjustment main menu.

**ADJUST** returns to operational mode.